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PROGRESS IN THE IMPLEMENTATION OF THE PROGRAMME OF ACTION FOR THE SUSTAINABLE DEVELOPMENT OF SMALL ISLAND DEVELOPING STATES

Report of the Secretary-General

Addendum

Management of natural and environmental disasters in small island developing States

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INTRODUCTION

A. Background

1. The present document reports on progress in the implementation of relevant recommendations of Agenda 21 as well as of the Programme of Action for the Sustainable Development of Small Island Developing States with regard to reducing the impact of natural and environmental disasters on the populations and the economies of small island developing States. The report is the result of coordinated input from concerned entities within the United Nations system and the international community. It provides a brief updated assessment of the current state of implementation of the Programme of Action, identifies the main relevant policy issues and makes a number of recommendations and proposals for actions.

2. The document has been prepared within the context of the International Decade for Natural Disaster Reduction (1990-2000), and in line with the guiding principles on the strengthening of the coordination of humanitarian emergency assistance of the United Nations, as adopted by the General Assembly. 1/ The secretariat for the Decade is an integral part of the Department of Humanitarian Affairs of the United Nations Secretariat, which serves as task manager for the issue of natural and environmental disasters. The report, accordingly, takes account of progress made in implementing the outcome of the World Conference on Natural Disaster Reduction, 2/ held at Yokohama, Japan, from 23 to 27 May 1994, with particular reference to those aspects that are of concern to the small island developing States. Thus, it provides a further stage in the broader-based evaluation of synergy between the future implementation of Agenda 21 and the Yokohama Strategy and Plan of Action, in support of the international community's efforts to achieve sustainable development.

B. Perspective

3. In 1994, the Global Conference on the Sustainable Development of Small Island Developing States adopted the Programme of Action for the Sustainable Development of Small Island Developing States. 3/ The Declaration of Barbados affirms that small island developing States are particularly vulnerable to natural and environmental disasters and have limited capacity to respond to and recover from such disasters. 4/ Chapter 2 of the Programme of Action outlines a set of actions to enable small island developing States to counter the threat from natural and environmental disasters.

4. Also in 1994, the World Conference on Natural Disaster Reduction was held at Yokohama, Japan, in the context of the International Decade for Natural Disaster Reduction. The Conference provided input for the Decade's mid-term review and adopted the Yokohama Strategy and Plan of Action as a guideline for implementation during the second half of the Decade, and as a basis for a comprehensive natural disaster reduction strategy into the twenty-first century. Both the outcome of the World Conference and the action plan for its implementation have been endorsed by the General Assembly.

5. The Yokohama Strategy and Plan of Action 5/ is built around the Decade's overall objective of reducing through concerted international action, especially in developing countries, the loss of life, property damage and social and economic disruption caused by natural disasters. It recognizes that, in many countries, sustainable economic growth and sustainable development cannot be achieved without adequate measures to reduce disaster losses, and that there are close linkages between disaster losses and environmental degradation, as emphasized in Agenda 21. It emphasizes the need for the United Nations system to pay special attention to the needs of small island developing States in this regard.

6. In the Declaration on the Occasion of the Fiftieth Anniversary of the United Nations, the General Assembly, inter alia, placed natural disaster reduction within the perspective of the international community's commitments on development cooperation for the benefit of fostering sustained economic growth, social development, environmental protection and social justice. 6/ The Ad Hoc Open-ended Working Group of the General Assembly on an Agenda for Development has defined a need for disaster reduction to become an integral part of national strategies and programmes for sustainable development. It calls for the implementation of the Yokohama Strategy and Plan of Action and points to the need for adequate financial resources and transfer of technology for developing countries.

I. OVERVIEW OF ACTIVITIES AND POLICY ISSUES

A. Vulnerability of small island developing States

7. The small island States of the Caribbean and Pacific regions and elsewhere are highly prone to devastating natural disasters, owing to (a) their small geographical areas, which account for the fact that disasters take country-wide proportions; (b) their location in some of the highest risk areas of the planet, such as mid-ocean ridges with strong volcanic and seismic activity, tropical cyclone belts, and direct exposure to the forces of the oceans; and (c) the fact that they are often dependent on single or few sources of income, in the agricultural sector or in tourism, for a substantial part of their gross national product (GNP). The economy of some even relies on one single crop. These sources of income can sometimes be severely reduced for months or years by a single catastrophic event. The adverse effects of disasters of major magnitude for small island States' economies, if recurrent, are even greater.

8. Another critical factor in this vulnerability, in particular in the least developed small island States, is their limited capacity to reactivate the development process. The fragility of their ecosystems and their limited human resources often preclude any possibility of developing and implementing meaningful disaster-mitigation programmes and the substantive vulnerability studies called for in this respect.

9. According to a study carried out by the Office of the United Nations Disaster Relief Coordinator (UNDRO) in January 1990, which ranked countries on the basis of the impact of disasters on their GNP, 13 of the 25 most disaster-prone countries are small island States. Some lost, in certain years,

between 28 and 1,200 per cent of their GNP. Vanuatu has lost as much as 57.7 per cent of its GNP, on average, in the four years 1981, 1985, 1987 and 1989 when it was hit by cyclones, and has incurred an overall estimated loss of more than two years of GNP as a consequence of significant disasters between 1970 and 1990. Such massive impacts can result in negative development for the countries concerned, i.e., steps backwards in terms of relative development. While over the long term they may still reach a modest economic growth rate, there is no doubt that disaster mitigation would allow these countries to sustain much higher rates of development through the effective reduction of their vulnerability to natural disasters.

10. Equally, environmental hazards can have serious impact on small island States. In particular the pollution of marine living resources, both from land-based sources and from transit shipping, is an area of concern. Reference is made to the report of the Secretary-General on the protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources (E/CN.17/1996/3) for a more detailed analysis of this aspect. Sealevel rise as a consequence of global warming is considered by most small island States as the major long-term environmental risk to which they are exposed. Climate change is perceived by many as having an influence on the frequency and intensity of extreme meteorological and hydrological events, although research in this field is still continuing.

B. Current state of progress in disaster reduction

11. Induced both by the Barbados Programme of Action and the Yokohama Strategy and Plan of Action, and based on existing programmes and activities, significant progress has been achieved in disaster management, in particular with regard to natural disaster reduction, in the small island States in the Caribbean and South Pacific subregions. They relate primarily to strengthening and building institutional disaster-management capacities at the national and local levels, as well as to the promotion of respective regional and subregional frameworks for cooperation, and the coordination of their activities at the regional and sub-regional levels.

12. The small island countries of the Pacific region have been very active in the area of developing their disaster-management capabilities with the support of the South Pacific Disaster Reduction Programme (SPDRP). The project is funded by the United Nations Development Programme (UNDP) and eight bilateral donors and implemented by the South Pacific Programme Office of the Department of Humanitarian Affairs. Its aim is to strengthen institutional capabilities and develop human resources in order to reduce the impact of natural disasters and thus reduce the constraint to sustainable development. It provides a framework for regional cooperation and exchange and extensive in-country and regional support in a range of disaster-management aspects, including disaster mitigation, preparedness and emergency and relief management. Two regional meetings on disaster reduction were held within the framework of the project since its start in May 1994.

13. Under the framework of the World Meteorological Organization (WMO) World Weather Watch Programme, the Nadi Tropical Cyclone Warning Centre in Fiji has been designated as a fifth Regional Specialized Meteorological Centre (RSMC), with activity specialization in tropical cyclone analysis, tracking and forecasting, since June 1995. The Nadi RSMC has responsibility for providing advisory services on tropical cyclone detection, monitoring and forecasting to the national meteorological services of the South Pacific and several initiatives have been taken to improve its facilities and services. These activities are expected to improve the forecasting and early-warning capabilities in the South Pacific region substantially before the end of the decade. Other RSMCs with similar specialization, whose areas of responsibility are shown in parentheses, are located in Réunion (south-west Indian Ocean), Miami (Caribbean Sea, north Atlantic Ocean, Gulf of Mexico), Tokyo (north-west Pacific Ocean), and New Delhi (north Indian Ocean, Arabian Sea and Bay of Bengal). They provide services to national meteorological services, in particular of small island States, in their regions of responsibility.

14. A third area in which significant progress is being made is telecommunications. The commissioning of a new satellite for regional telecommunications through the PEACESAT programme and the establishment of a sustainable development network provide opportunities for Pacific island countries to improve their pre- and post-disaster information exchange.

15. Progress is less evident in the integration of disaster policies into national development planning because this is a long-term development that can only be implemented in a gradual way. The establishment of national emergency funds has not been a priority in Pacific island countries. Although some countries have emergency reserves, these are, in general, small compared to the funding requirements in case of a disaster. Greater emphasis is placed on emergency procedures for disbursement, and countries continue to rely on external support for disaster relief, in particular from the United Nations and neighbouring countries.

16. As to environmental disasters in the Pacific, the International Maritime Organization (IMO) is working on maritime safety, including the development of pollution-combating centres, direct assistance in the event of serious spills, as well as continued efforts to establish regional maritime coordination networks.

17. In September 1995, at the twenty-sixth South Pacific Forum in Papua New Guinea, the Waigani Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region, was signed by all Forum members except Tuvalu and the Marshall Islands. The signing of the Waigani Convention is an indication of the seriousness with which countries are now treating the problems posed by hazardous and radioactive wastes. The South Pacific Regional Environment Programme (SPREP) acts as the secretariat for the Convention.

18. The small island countries of the Caribbean region have experienced several major natural disasters since April 1994: tropical storm Debby passed through Saint Lucia (September 1994), tropical storm Gordon ran through Haiti and Cuba

(November 1994), hurricanes Luis and Marilyn hit Antigua and Barbuda, Dominica, Saint Kitts and Nevis and the Netherlands Antilles (September 1995), and Montserrat is still under continuous threat of volcanic eruption. The Caribbean Disaster Emergency Response Agency (CDERA) coordinates disaster relief in the Caribbean region. For the purpose of improving disaster preparedness, it has established arrangements for regional cooperation for support to countries affected by disasters. The Department of Humanitarian Affairs of the Secretariat has organized a training seminar for stand-by emergency teams.

19. Many of the Caribbean small island States are currently undertaking disaster-reduction activities in a number of sectors. Priority attention is given to tourism, health, education, infrastructure and agriculture. These activities are supported by the Caribbean Disaster Mitigation Project (CDMP), implemented by the Organization of American States (OAS), with funding by the United States Agency for International Development (USAID). Emphasis is placed on regional disaster-mitigation activities and exchange programmes.

20. Insurance against disasters is an important issue in the Caribbean region. Several initiatives are being taken to address the need for appropriate availability of insurance. The Caribbean Disaster Mitigation Project attempts to improve cooperation between national disaster-management agencies and insurance companies. WMO and the Economic Commission for Latin America and the Caribbean (ECLAC) organized a Workshop on Meterological and Hydrological Data for the Insurance Industry at Port-of-Spain on 26 and 27 October 1995, during which innovative measures on insurance were discussed, and the Food and Agriculture Organization of the United Nations (FAO) provided advice on the basic requirements for agricultural insurance for weather damage.

21. As to environmental threats, the Organization of Eastern Caribbean States, based in Saint Lucia, manages a project on pesticides and toxic chemicals legislation, which seeks to educate the public on the use of chemicals, train pesticide users and institute controls on storage and transportation. The United Nations Environment Programme (UNEP)/Department of Humanitarian Assistance Environment Unit is developing a network of national focal points so that notification of environmental emergencies and request for assistance can be made as efficiently as possible, thereby strengthening the international capacity to provide support for countries requiring help. The network includes Antigua and Barbuda, Barbados, Bahamas, Haiti, Saint Lucia and Trinidad and Tobago.

22. WMO organized an Expert Meeting on Public Weather Services and Hurricane Disaster Preparedness at Port-of-Spain from 11 to 15 December 1995. The main focus of the meeting was to review the current methodology used to make seasonal and inter-annual predictions of hurricane activity, and the level of skill of such forecasts. The meeting concluded that seasonal forecasts already had some skill regarding hurricane activity in the Caribbean and it was expected that the skill level would continue to improve with further research. The use of seasonal forecasts must be put in perspective of decadal scale trends, which currently indicate a lull in hurricane activity in the Caribbean Basin compared to decades prior to 1960. The meeting also addressed the important issue of public education and understanding in dealing with all information concerning hurricane-related disasters.

23. A study relevant to the efforts undertaken during the International Decade for Natural Disaster Reduction, to reduce the adverse impacts of natural disasters, namely, the design and implementation of the building code CUBiC (Caribbean Uniform Building Code), was presented at the meeting. The project was developed some nine years ago in Trinidad and Tobago and it is envisaged that its implementation should result in safe and economic design structures. The Miami RSMC offered to include CUBiC on its Home Page on the Internet.

24. New initiatives for disaster reduction in small island States outside the Caribbean and Pacific regions have been less comprehensive. A series of three African subregional workshops on natural disaster reduction was carried out during 1994-1995. These workshops have initiated the formulation of country programmes. Other activities reported include a WMO seminar and training course for the Indian Ocean and a regional workshop sponsored by the UNDP/Department of Humanitarian Affairs Disaster Management Training Programme, which is planned for 1996, with the participation of Mauritius, Seychelles, Reúnion, Comoros and Madagascar. The Department of Humanitarian Affairs provided technical support in disaster mitigation to Cape Verde.

25. A wide range of other international programmes and projects contribute to disaster reduction in small island States. A framework for these activities is provided by the International Decade for Natural Disaster Reduction, and many of the small island States are active participants in Decade activities. They organize national activities for the annual International Day for Natural Disaster Reduction (the third Wednesday in October), contribute to the overall development of programmes and policies within the International Framework of Action for the Decade, and use the Decade resources and materials to strengthen in-country public awareness and education activities.

26. In the context of the major programmatic areas of international cooperation in support of disaster reduction in small island States, activities are undertaken, with the wide participation of the United Nations system, in the fields of information management and communication, hazard forecasting and warning, and technical cooperation. Several bodies and organizations of the United Nations system, including the Department of Humanitarian Affairs, WMO, the World Health Organization, the United Nations Children's Fund, the United Nations Educational, Scientific and Cultural Organization and the United Nations Centre for Human Settlements (Habitat), report on programmes that support disaster reduction in small island States.

27. With regard to more detailed information, reference is made to the report of the Secretary-General report on action taken by the organs, organizations and bodies of the United Nations system to implement the Programme of Action for the Sustainable Development of Small Island Developing States (A/50/422). Reference is also made to the reports of the Secretary-General, both on the International Decade for Natural Disaster Reduction (A/50/201-E/1995/74), in general, and on early-warning capacities of the United Nations system with regard to natural disasters (A/50/526), which were submitted to the General Assembly at its fiftieth session. A complementary publication of the secretariat of the Decade provides a summary of global and regional activities since the World Conference on Natural Disaster Reduction.

C. Main policy issues

1. Regional cooperation

28. Regional cooperation is a vital factor for success in addressing the natural disaster problems of small island States. The regional level performs a support role by providing a framework that enhances the national capabilities to reduce disasters. Regional cooperation enables a continuous dialogue on risk analysis and vulnerability assessment, as well as the identification of common interests and requirements of countries, the regional exchange of knowledge and traditional indigenous technologies, joint approaches to education, training and awareness-raising, and the development of common approaches, where appropriate, with regard to international technical cooperation. Regional as well as sub-regional cooperation arrangements are traditionally strong in addressing issues of common concern, in particular in the Caribbean and Pacific regions. During recent years, for example, programmes based on such mechanisms have provided substantive support to disaster reduction.

29. The small island States outside those subregions have been generally less successful in realizing concrete progress in disaster reduction. This may in part be attributable to a lack of comparative mechanisms of cooperation between those small island States, even though they face similar problems and opportunities for disaster reduction. Interregional cooperation could be beneficial for all these small island States, and could, in particular, assist countries that have relatively less strong regional ties.

2. Policy support at the national level

30. A fundamental precondition for successful disaster reduction is its full integration into national planning. The effectiveness of applying necessary measures at all levels of society and administration is proportionate to the degree of political recognition and support for disaster reduction at the highest level. In this way, stronger policy support can be generated for key decision makers within all the relevant sectors. Three areas of policy making at the national level for reducing disaster impacts in small island States stand out from the rest:

(a) Institutional development and human resources development;

(b) The implementation of disaster-mitigation projects that contribute to the integration of natural and environmental disaster policies into national development planning;

(c) The improvement of systems and arrangements for information management and communication.

31. Other priority areas, according to local circumstances, include the strengthening of local broadcasting arrangements, the establishment of national emergency funds and the use of traditional knowledge and approaches for disaster reduction and preparedness.

3. Vulnerability index of small island States

32. Vulnerability to natural disasters is one of the most important factors to be considered in analysing the overall risk of small island States and in determining their potential for development. This requires the development of reliable vulnerability indices, comprising a sound assessment of hazards and risk, as well as ecological, economic and social data. A vulnerability index of small island States would provide the basis for establishing integrated frameworks for all aspects of disaster management, in particular natural disaster reduction, as part of national planning. One such building block for an integrated approach of this kind is already being developed, inter alia, by means of a comprehensive and coordinated project strategy in the context of the Decade, whereby possible methodologies for reliable data collection and analysis are being considered.

4. Insurance

33. The issue of insurance is closely related to assessments and perceptions of the overall vulnerability of small island States, and the devastating impact that disasters often have on development as a whole. In the Caribbean, access to insurance had been reduced during recent years as a result of a sequence of major natural disasters. Following the Barbados Conference, however, several initiatives are in process to improve access to insurance and stimulate cooperation between insurers, with a view to providing suitable solutions for small island States. More research and experiments are needed to optimize the contribution insurance can make to reducing the impact of disasters as well as to diminishing the impact of perceived and real disaster risks on the overall development potential and level of investment in small island States. Among the topics to be considered in that process are:

(a) The use of building codes and engineering certificates in insurance;

(b) Proper land use based on multiple risk analysis and detailed risk maps;

(c) The impact of hazard mapping and long-term weather forecasts on access to insurance, and on premium structures;

(d) Opportunities for sectoral insurance, in particular in agriculture and tourism;

(e) The establishment of mutual insurance between small island States as a means of spreading developmental risks between countries;

(f) Insurance compensations in the informal and subsistence sectors of the economy;

(g) The use of other financial instruments such as mortgage policies and housing loans and subsidies, in conjunction with insurance, for disaster-prevention purposes.

34. The interdependence between the coverage of risk through direct insurance and through reinsurance, as well as the issue of developing appropriate national insurance programmes, which, as part of a market of increasingly global dimension, depend on distinct recognition and support from the international reinsurance sector, is also an important factor. Concerns about global warming and its potential impact in terms of natural disasters have led to an increasing awareness on the part of insurance and reinsurance companies of the need to go beyond traditional insurance schemes and to promote disaster-mitigation measures at all levels in order to reduce the rapidly increasing volume of insurance claims in the years to come. (This has been evidenced, recently, by a "Statement of Environmental Commitment" signed by a number of insurers under the auspices of UNEP.)

5. National emergency funds

35. Irrespective of improved access to insurance and related private sector mechanisms, and in addition to the institution of direct transfers from national Governments for disaster relief and rehabilitation, there will remain a distinct need for contingency resources that enable adequate support to disaster victims. Recent experience in the Caribbean indicates that the lack of national emergency funds, and of effective procedures for emergency disbursement, slows down the capacity of competent national administrations to provide adequate emergency assistance in an appropriate time. This is of particular importance in the case of disasters of a magnitude requiring international assistance, so as to form a bridge between the launching of an appeal and the receipt of external relief. This also applies to disaster situations that are limited to the local level but that nevertheless need to draw on national resources for adequate response action. In addition to supporting relief activities in acute emergency situations, national emergency funds can also form part of an overall national disaster-management strategy, embracing prevention, early warning and preparedness, as well as disaster relief and rehabilitation.

6. Environment, disasters and development

36. The Programme of Action for the Sustainable Development of Small Island Developing States provides an integrated framework for addressing natural disasters in the context of environmental fragility and social and economic development. By considering disaster risks as a cross-sectoral issue in the development of small island States, disaster management can be recognized as extending beyond emergency relief and disaster response. This approach was also emphasized during the World Conference on Natural Disaster Reduction, in May 1994, where this comprehensive approach was referred to as "building a culture of prevention".

37. Experience gained from the implementation of current policies and programmes indicates that disaster management needs to be defined and applied in a more integrated way and that such an approach would be particularly appropriate for small island developing States. Natural disaster reduction as an integral part of the concerted efforts of the international community towards sound environmental management, the protection of natural resources and the

achievement of sustainable development will be a long-term process, extending well into the next century. The development of a vulnerability index for small island States, and the establishment of various pilot programmes to integrate disaster considerations into overall development strategies, indicate that small island States can take a leading role in developing disaster-management approaches appropriate to this new role.

7. Socio-economic impact assessment

38. The far-reaching effects of natural disasters on the economies of the affected countries need to be addressed in a much more systematic way than hitherto. As already indicated, it is recognized, for example, that in many disaster-prone developing countries, natural disasters account for the loss of several percentage points of GNP, which for many of them is often tantamount to negative development. However, no systematic data collection on the true impact (direct, indirect and secondary damage) of natural disasters has ever taken place; yet, this is fundamental for enlightened national development policy making.

39. Within the framework of the International Decade for Natural Disaster Reduction, a world survey of disaster damage in the first half of the Decade is being initiated. It is expected to yield not only reliable quantitative data on which disaster-prone countries could base their policy decisions, but also a methodology for future disaster damage assessment and cost-benefit analyses of mitigation or prevention measures. This and other efforts, including practical studies on the use of financial instruments like mortgage policies, housing and business development loans and grants, as well as insurance for disaster-mitigation purposes, are aimed at facilitating the integration of natural disaster variables in national development plans, with a view to enhancing sustainable development, particularly in the least developed disaster-prone countries and in small island developing States.

8. Human resources development

40. Natural and environmental disasters probably present the biggest ongoing systematic threat to achieving development goals in small island developing States. Consequently, there is a need for a comprehensive approach to disaster reduction as a universal focus rather than an approach that concentrates largely on high profile current events. Because disasters are endemic to many of the countries, programmes of disaster reduction can be looked upon as protecting the process of development. The capacity and resources held by populations to minimize their risk and vulnerability to such disasters are essential factors for the effective integration of disaster reduction into development programmes and strategies. Optimum use of human resources is also essential to operate within the limits of, often scarce, available means.

41. Education in all its aspects, as well as scientific and vocational training, and awareness raising, both in general and in hazard-specific terms, are key to capacity-building and human resources development. Several programmes are being undertaken by a number of small island States at the

regional, subregional and national levels. Interregional cooperation between small island States could further enhance the opportunities for learning lessons from capacity-building programmes in other such countries. The Scientific and Technical Committee of the Decade is initiating a strategy for improved natural disaster reduction training as part of implementing the Yokohama Strategy and Plan of Action.

9. Technological development in disaster reduction

42. The major trend in disaster management is towards a more integrated and proactive approach. This trend is firmly based on the international policies established in Barbados and Yokohama. New developments in technology for disaster reduction relate to an important extent to increased opportunities for collecting, processing, analysing and sharing extensive amounts of data. Development trends can be better analysed and integrated with information on hazards and vulnerability. Technological advances in the use of materials is providing new ideas for the application of updated or modified traditional and local practices, such as improved construction techniques applied to indigenous materials. Advanced biological practices are encouraging the more varied or extended use of natural resources to limit the depredation of local environments from natural hazards. Modified strains of crops can also increase their durability or resistance to hazard agents. The increased use of recycling technologies is able to provide a greater conservation of resources and to retard their disastrous overuse or depletion.

43. Disaster-management and emergency operations can be based on more detailed information that is available to a wider range of people internationally, leading to more focused support programmes. Technological advances in communication and educational practices present significant opportunities for smaller habitations or scattered population groupings in small island States.

10. Early warning

44. The effective early warning of natural hazards and the integration of community awareness pertaining to disaster-management capabilities are viewed as essential components in the protection of community resources. It is widely recognized that political and social commitment to the development of community-based disaster-awareness programmes, and the encouragement of informed participation in developing local capacities to protect social and economic assets, contribute to the realization of developmental accomplishments. The General Assembly has recognized this importance, with particular reference to developing countries and small island States, in its endorsement of the review and analysis of early-warning concepts and practices which can provide proposals for the improvement of both international coordination and local capacity-building in disaster reduction. The General Assembly has also encouraged all countries subjected to the severe effects of natural hazards, such as small island States, to actively undertake regular reviews of their early-warning requirements and capabilities at the national and local levels, with the full support of the United Nations system. 7/ For greatest effectiveness and the most efficient use of limited resources, this needs to be done within the

framework of their overall national development objectives for the protection of their populations and assets.

11. Participatory approaches

45. The ultimate success of any disaster-reduction activity is overwhelmingly determined at the community and local levels by the extent to which lives are being saved and property and infrastructural investment is being protected. This calls for the active participation of populations and societies directly at risk from natural or environmental hazards. In most of the small island States, the local communities implement, for example, land-use policies. While advocacy for disaster reduction and the promotion of national development in this field, as well as the commitment for international technical cooperation and the adequate provision of such resources, are to a large extent major responsibilities of the United Nations system and its Member States, the concrete transformation of such commitment into practical achievements requires the full participation of all concerned sectors. This requires the active involvement of local authorities, indigenous and international non-governmental organizations, the scientific and technical communities, the private sector, including financial institutions, insurance, service providers and industry, as well as the media. Such a participatory concept is a key objective of the Decade, as reaffirmed by the Yokohama Strategy and Plan of Action.

II. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

46. As a result, inter alia, of the Declaration of Barbados and the Programme of Action for the Sustainable Development of Small Island Developing States, and in the context of the implementation of both Agenda 21 and the Yokohama Strategy and Plan of Action, progress has been made in better addressing the disaster problems of small island States, in particular in the Pacific and Caribbean regions. However, it needs to be recognized that many new activities that have been defined and presented in this process are yet to be implemented in concrete terms. Most of the activities currently supporting disaster reduction in small island States were already in advanced stages of planning at the time of both Conferences.

47. Some countries continue to express concern that, in the follow-up to the Global Conference on the Sustainable Development of Small Island Developing States, additional resources have only come forward to a very limited and still insufficient extent. Also, the call for additional support for natural disaster reduction, as reiterated during the World Conference on Natural Disaster Reduction, and as endorsed by the General Assembly, 8/ has yet to be translated into the provision of adequate resources. The present chapter, therefore, outlines some key requirements for effective and continued implementation of chapter 2 of the Programme of Action for the Sustainable Development of Small Island Developing States.

1. National programmes for disaster reduction

48. Institutional development, mitigation programmes, information access and exchange, as well as education and training, are recognized as priority areas for natural disaster reduction programmes. These priority areas need to be addressed through coherent national programmes as outlined in the targets of the International Decade for Natural Disaster Reduction. Not all small island States have yet been able to establish these programmes. This, together with the generation of the necessary policy support for disaster reduction activities, is a particular priority need. Adequate external support for national programme development is equally essential to build capacities at the regional, subregional, and national levels.

2. Subregional, regional and interregional cooperation of small island States

49. The findings in the present report demonstrate that subregional and regional cooperation between disaster-prone small island States has played a positive role in generating progress in countering and reducing the effects of natural and environmental disasters in the Caribbean and in the South Pacific. It is also concluded from these experiences that cooperation between small island States on an interregional basis will enhance these possibilities even further. Interregional cooperation would, in particular, allow small island countries outside the Pacific and Caribbean regions, which to date depend mostly on their own limited capabilities and international bilateral or multilateral support, to increase their interaction with other small island States and to draw on the potential of a South-South transfer of knowledge and technology.

50. Major opportunities for strengthening or developing means of subregional, regional and interregional cooperation lie in establishing an interregional mechanism for training in disaster reduction, in particular by facilitating networking between existing institutes and programmes and by establishing scientific or technical exchange programmes. This could lead to broadening the possibilities for the development and implementation of joint disaster-mitigation activities.

3. Development of new subprogrammes

51. The disaster-reduction programmes implemented in the Pacific and Caribbean regions should provide a basis for the full and successful implementation of chapter 2 of the Programme of Action for the Sustainable Development of Small Island Developing States, if they can be sustained over the longer term. Still, there remains the need to consider additional subprogrammes: (a) in support of the small island States outside both regions; (b) with regard to further developing the understanding of the specific vulnerabilities and opportunities of small island States; and (c) for the purpose of establishing mechanisms for cooperation and exchange, as indicated above. In addition, targeted research and further development of knowledge is needed in a number of thematic areas for building risk-reduction capacities in small island States.

4. Interdependencies and linkages

52. As outlined in the introduction to the present report, measures of disaster prevention, preparedness and mitigation are an integral part of national planning. Natural disaster reduction contributes, as a cross-cutting issue, to poverty alleviation through sound environmental management, the protection of natural resources and the achievement of sustainable development. The implementation of Agenda 21, the pursuit of concrete progress with regard to the Programme of Action for the Sustainable Development of Small Island Developing States and the efforts to attain the goals and objectives of the International Decade for Natural Disaster Reduction (1990-2000) must go hand in hand. Thus, the closest coordination with the action plans of all recent thematic global conferences, organized under the auspices of the United Nations, is required, in particular with regard to those components of particular relevance for small island developing States.

53. The full recognition of the interdependence and the linkages between natural disaster reduction and the achievement of sustainable development is a decisive prerequisite for all progress both at the policy level and at the operational level. In this context, any notion that disaster management is limited to action in specific disaster situations, and by specialist sectors of society only, is detrimental to the objective of saving lives and protecting property at risk from natural and environmental disasters. Equally, there is a need to avoid the erroneous perception among some decision makers and the public that disasters are, by definition, synonymous with man-made or politically induced emergency situations. Natural and environmental hazards constitute a major threat to both developing and industrialized countries; natural and environmental disasters kill and maim people and can heavily disrupt the long-term economic and social stability of societies. Concepts and measures to counter this threat deserve the highest possible attention.

B. Recommendations and priorities for action

1. Recommendations

54. In considering the findings of the present report, and in recognition of the continuing need for the full and effective implementation of chapter 2 of the Programme of Action for the Sustainable Development of Small Island Developing States, it is recommended that the Commission on Sustainable Development:

(a) Encourage the Governments of small island developing States, with the active involvement of local authorities, indigenous and international non-governmental organizations, the scientific and technical communities, the private sector, including financial institutions, insurance, service providers and industry, as well as the media, to integrate fully programmes and measures related to natural and environmental disaster reduction into their national development plans, policies and projects for sound environmental management, the protection of natural resources and the achievement of sustainable development;

(b) Also encourage the Governments of small island developing States to increase further their efforts towards subregional, regional and interregional cooperation;

(c) Call on all Governments, with the active involvement of all concerned sectors of society, to consider the issue of natural and environmental disaster reduction as fully integrated into the international community's efforts towards sound environmental management, the protection of natural resources and the achievement of sustainable development, and to support the facilitation of an effective synergy between the implementation of Agenda 21, the Barbados Programme of Action and the Yokohama Strategy and Plan of Action;

(d) Call on Member States to support the efforts undertaken within the context of the Decade, towards improving the early-warning capacities for natural disasters and similar disasters with an adverse effect on the environment, including the establishment of effective global and regional mechanisms for the collection, analysis and dissemination of reliable disaster-reduction data, and the transfer of early-warning related technology within international technical cooperation;

(e) Support the implementation of the Yokohama Strategy and Plan of Action with particular regard to improved education and training in disaster reduction, including the creation of interdisciplinary scientific and technical networking at all levels, for the purpose of capacity-building and human resources development;

(f) Invite Governments to consider establishing an informal open-ended working group within the existing International Framework of Action for the Decade, 9/ with membership from concerned small island developing States, as well as of all relevant sectors in disaster reduction, with a view to ensuring the full integration and participation of small island developing States in the mapping of a concerted strategy for disaster reduction into the twenty-first century. 10/

2. Priorities for action

55. The Commission is further invited to consider a number of priority actions, which are set out in the following paragraphs in relation to the national, regional and international levels.

(a) National level

56. At the national level, activities should be undertaken within the framework of coherent national programmes, as outlined in the targets of the International Decade for Natural Disaster Reduction. Not all small island States have yet been able to develop such programmes. This remains, thus, in itself an area of priority, for which adequate external support is essential. The activities should comprise:

(a) Integration of natural and environmental disaster policies into national development planning;

(b) Institutional development, including early-warning systems and human resources development for disaster management;

(c) Improvement of systems and arrangements for information and communication;

(d) Strengthening of local broadcasting;

(e) Establishment of national emergency funds to provide adequate support to disaster victims;

(f) Use of traditional systems for disaster reduction and preparedness;

(g) Development of appropriate national insurance programmes.

(b) Regional level

57. At the regional level particular emphasis should be placed on activities that would assist more isolated small island developing States to increase cooperation with others. In addition, consolidation and further strengthening of regional cooperation mechanisms in the Pacific and the Caribbean are required. The following actions are recommended:

(a) Strengthening of regional and interregional cooperation between small island States in disaster reduction, including through exchange programmes, joint disaster-reduction programmes and other mechanisms;

(b) Formalization and strengthening of cooperation arrangements at the regional level through the designation of a regional policy body for disaster reduction;

(c) Development of operational working arrangements for disaster mitigation, preparedness and response, and consolidation of existing disaster-reduction programmes;

(d) Establishment of an interregional mechanism for training in disaster reduction, in particular by facilitating liaison between existing institutes and programmes;

(e) Assessment of the needs in each region on the basis of a detailed analysis of the regional situation and an analysis of requirements at the national level, as indicated above.

(c) International level

58. Both the Yokohama Conference and the Barbados Conference call for the mobilization of additional resources for disaster reduction in small island States. It is not clear to what extent those Conferences have already been instrumental in mobilizing resources, yet the perception in some small island developing States is that more can and should be done. A second subject area that plays a central role for international-level action is access to technology, training and information. The following could be considered by the

Commission as priorities for international action in addressing disaster problems of small island developing States:

(a) Provision of expert support for the establishment of national programmes for disaster reduction in small island States in the context of their national strategies;

(b) Mobilization of additional resources to address urgent disaster-reduction requirements and to build early-warning capacities for natural disasters in small island States;

(c) Improved access to disaster and warning information in order to enhance the capability of small island States for disaster management;

(d) Provision of technical, financial and expert support for the establishment of a mechanism for interregional cooperation and exchange of small island States in disaster reduction, in particular in training, institutional development and disaster-mitigation programming;

(e) Establishment of a specific international programme for disaster reduction in small island States to provide a framework for cooperation and exchange of knowledge and technology;

(f) Support for targeted research and further development of knowledge in the following thematic areas for building risk-reduction capacities in small island States:

(i) Insurance as a preventive and mitigating tool for disaster reduction;

(ii) Telecommunications and information management as a tool for disaster reduction;

(iii) Limits and opportunities for the establishment of national disaster emergency funds and emergency administrative procedures;

(iv) A systematic analysis of developmental vulnerability and the establishment of indices and indicators;

(v) Evaluation of constraints in small island States' access to reliable data, disaster-specific knowledge and technology means;

(vi) A review of the linkages between disasters, development and environment, including the development of methods for systematic appraisal of developments in relation to disaster risks;

(vii) An analysis of the linkage between global climate change and the characteristics and occurrence of natural hazards in small island States.

Notes

1/ General Assembly resolution 46/182 of 19 December 1991, annex.

2/ See Report of the World Conference on Natural Disaster Reduction, Yokohama, Japan, 23-27 May 1994.

3/ Report of the Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, 25 April-6 May 1994 (A/CONF.167/9 and Corr.1 and 2) (United Nations publication, Sales No. E.94.I.18 and corrigenda), chap. I, resolution 1, annex II.

4/ Ibid., annex I.

5/ Report of the World Conference ..., chap. I, resolution 1, annex I.

6/ General Assembly resolution 50/6 of 24 October 1995.

7/ See General Assembly resolution 50/117 B of 20 December 1995.

8/ See General Assembly resolutions 49/22 A of 2 December 1994 and 50/117 A of 20 December 1995.

9/ See General Assembly resolution 44/236 of 22 December 1989, annex.

10/ See General Assembly resolutions 49/22 A and 50/117 A.